LEUKEMIA

Table 1: Incidence and mortality summary, South Dakota 2003

	All races combined			White	American Indian
	Total	Male	Female		
Incidence count*	94	57	37	89	5
S.D. incidence[1]	11.5	15.3	8.1	11.6	§
U.S. incidence	11.6	15.3	8.8	12.1	▒
Death count[1]	79	52	27	77	2
S.D. death rate[1]	9.1	14.0	5.3	9.3	§
U.S. death rate[2]	7.4	9.9	5.6	7.6	3.8

▒ Rate is not available

§ Rates less than 16 counts are supressed because of instability of rates

Rates are per 100,000 persons, age-adjusted to the 2000 U.S. standard population

+ Source: South Dakota Department of Health * *SEER* 13 Registries *1990-2003*

Leukemia stage at diagnosis, South Dakota, 2003

Leukemias are not staged because they involve bone marrow throughout the body and often have spread to other organs. Doctors classify them by type and subtype in an attempt to determine the prognosis and a recommended level of treatment.

Chronic myelogenous leukemia is grouped by phases and chronic lymphocytic leukemia (CLL) uses a Rai classification

Descriptive Epidemiology

Incidence: Leukemias are a diverse group of cancers and are sub-typed by histology. Subtypes have different etiology, treatment and prognosis. Leukemias accounted for 2.5% of all cases reported to the SDCR. The most common types reported were chronic lymphocytic and acute myeloid leukemias.

Leukemia is a common childhood cancer with 20 cases reported in 2003 in children 0 - 19 years old. Children have a higher incidence than those ages 20-34 years and incidence increases with age over 35 years old. The most cases reported were among adults 80-84 years old.

Mortality: Leukemia accounted for 3.5% of cancer deaths with acute myeloid leukemia being the most frequent cause of leukemia deaths. Whites had twice Trends in death rates for leukemia for 1999-2003 did not show any changes with 0 percent change(PC) 0.2 annual percent change APC.

The mortality/incidence ratios was 0.84 for all persons.

Years of Potential Life Lost ($YPLL_{75}$) in 2003: 660 years for whites and 21 years for American Indians.

Average Years of Life Lost ($AYLL_{75}$) in 2003: 18 years for whites and 10.5 years for American Indians

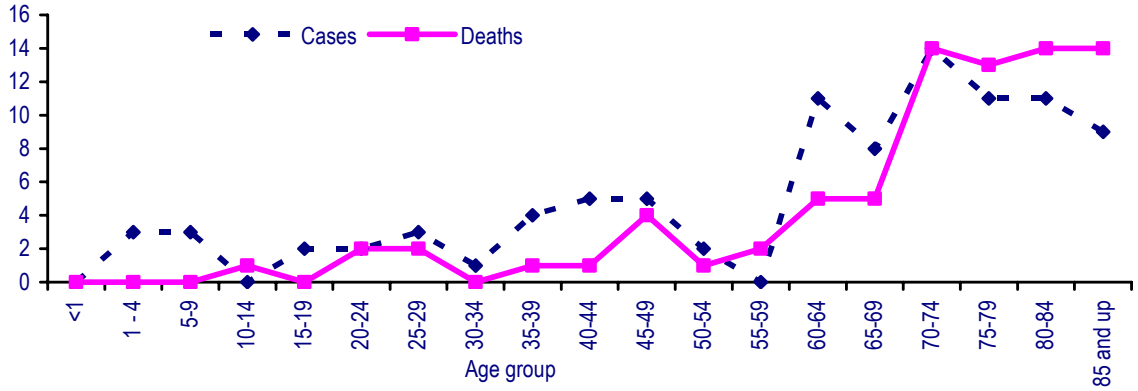
Risks and Associated Risk Factors

Causes for most of these cancers are unknown. Occupational exposures to benzene and radiation, certain chromosomal abnormalities, such as Down syndrome, human T-cell lymphocytic virus type I (HTLV-I) and cigarette smoking may be associated with leukemias. Childhood leukemias in the early years may be related to genetic factors and certain prenatal and post-natal exposures.

Early Detection and Prevention

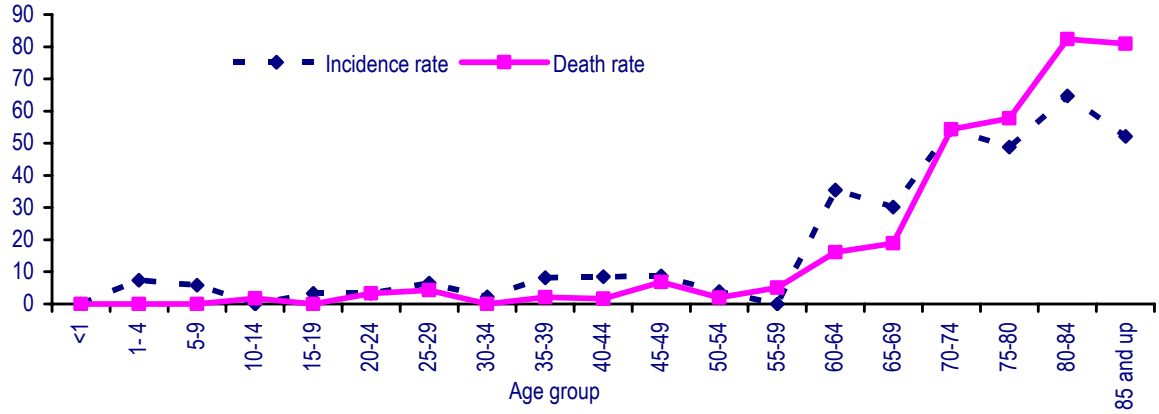
There are no early detection or prevention strategies. Often symptoms are the same as for many other health problems, thus early detection is difficult. Diagnosis is made using blood tests and bone marrow biopsies.

Figure 2 : Leukemia cases and deaths by age, South Dakota 2003



Source: South Dakota Department of Health

Figure 3: Leukemia age-specific incidence and death rates, South Dakota 2003



Rates are per 100,000 persons

Source: South Dakota Department of Health

Table 2 : Leukemia age-adjusted incidence 2001-2003 and age-adjusted death rates 1999-2003, South Dakota and United States

		All races combined			White	American
		Total	Male	Female		Indian/PI
2001-2003	SD incidence count	299	179	120	280	12
3 years	S.D. incidence rate[1]	12.1	16.2	8.8	12.0	§
incidence[1]	U.S. SEER incidence rate[2]	13.3	17.2	10.3	14.1	6.4
1999-2003	SD death count	355	212	143	345	5
5 years	S.D. death rate[2]	8.3	11.7	5.8	8.4	§
deaths[1]	U.S. SEER death rate[2]	7.6	10.1	5.8	7.8	3.9

Note: § Rates based on < 16 counts are supressed because of instability of rates

Rates are per 100,000 persons, age-adjusted to the 2000 U.S. standard population (19 age groups-Census P25-1130)

Source: [1] South Dakota Department of Health ; [2]*SEER Cancer Statistic Review 1970-2003*